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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/092,446	03/08/2002	Satoru Tanaka	220449US2	8748

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EXAMINER

CHAUHAN, ULKA J

ART UNIT PAPER NUMBER

2676

DATE MAILED: 09/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/092,446

Applicant(s)

TANAKA, SATORU

Examiner

Ulka J. Chauhan

Art Unit

2676

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 August 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Art Unit: 2676

DETAILED ACTION

1. Claim 13 in newly added and claims 1-13 are pending.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. **Claims 1, 2, 7, 8, and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Admitted Prior Art (para. 0004-0008) (APA) and U.S. Patent No. 6,618,157 to Coyle et al.**

5. As per claims 1 and 2, APA discloses an image data processing unit processing image data, the image data processing unit including:

Art Unit: 2676

a graphics port and a peripheral device interconnection port (para. 0004 : *an image processing apparatus comprising a memory for storing drawing data connected to a print engine via an ASIC that is connected to AGP*);

a print engine connected to the peripheral device interconnection port to form a visible image based on the image data received through the peripheral device interconnection port (Fig. 1: *print engine 1610 coupled to the ASIC via PCI 1609*);

a central processing unit controlling transfer of the image data (para. 0006: *The CPU 1603 interprets a drawing command and carries out drawing on a page buffer 1611 reserved in a MEM-C 1605. After the drawing on the page buffer 1611 is completed, a command is sent to the engine 1610. Then, the engine 1610 reads image data from the page buffer 1611 of the MEM-C 1605*); and

first memory for storing the image data; the central processing unit stores the image data in the first memory; and second memory connected to the image data processing unit (para. 0004 and Fig. 1: *the CPU supplies drawing data to be stored in the local memory and the memory for drawing*).

6. As per claims 1 and 2, APA does not expressly teach the central processing unit and the first memory are connected on a side of the graphics port with respect to the image data processing unit; that the central processing unit transfers the image data stored in the first memory to the print engine through the graphics port, the image data processing unit, and the peripheral device interconnection port; or that transfers the image data from the first memory to the second memory through the graphics port so as to transfer the image data from the second memory to the print engine through the peripheral device interconnect port. Coyle discloses a

Art Unit: 2676

computer 2 comprising a motherboard 6 carrying a RAM 10 and an AGP interface card 12 mounted thereon by an AGP connector 22; wherein the AGP interface card 12 comprises an AGP controller chip 24, chip 26, input and output FIFOs 28 & 30, user configurable hardware chips 34 & 36, and a custom interface board 38, and is coupled to a printer (c. 4 ll. 9-17, c. 4 ll. 63-c. 5 ll. 11, c. 12 ll. 4-7, and Figs. 1 and 2). The components of the AGP interface card 12 are considered together as an image data processing unit. Therefore, Coyle teaches a CPU and first memory connected on a side of the graphics port with respect to the image data processing unit. Coyle also discloses that in outputting image data to the photocopier, data flows from the motherboard RAM 10 directly through AGP edge connector 22, through to controller chip 24, through to output FIFO data buffer 30, through to hardware chip 36, through to interface 46, and then to the digital copier (c. 6 ll. 32-57). Therefore Coyle discloses that image data is transferred from first memory (the RAM 10) to the second memory (output FIFO 30) through the AGP and from the second memory (output FIFO 30) to the printer (copier) through bus 18 (Fig. 1). APA discloses that data is transferred from the local memory to the print engine through the PCI (Fig. 1). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have utilized the CPU and memory connected on a side of the AGP with respect to the image processing unit as taught by Coyle in combination with the image processing apparatus of the APA; whereby data is transferred from the system memory through the AGP to a local memory, and from the local memory through the PCI to the printer. One would have been motivated to have made this modification in order to provide a memory with enough capacity to store a full document for printing and so that operation of the computer and the printer at two different speeds does not result in any conflicts.

Art Unit: 2676

7. Claims 7, 8, and 13 are similar in scope to claims 1 and 2, and are rejected under the same rationale.

8. **Claims 3-6 and 9-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Admitted Prior Art (para. 0004-0008) (APA) and U.S. Patent No. 6,618,157 to Coyle et al and U.S. Patent No. 6,370,631 to Dye.**

9. As per claims 3-6, APA discloses a compressor connected between the graphics port and the second memory (para. 0004: *the ASIC generally has a compression function and a data transfer function*). APA does not expressly teach a decompressor connected so that decompressed data is stored in the second memory or connected so that decompressed data is transferred from the first memory or the second memory. Dye teaches an integrated memory controller, IMC 140, comprising compression logic 302 and decompression logic 304, whereby the two logic function to store compressed or decompressed data to the system memory and to transfer compressed or decompressed data read out from the system memory (Figs. 7-15). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have combined the teachings of the APA, Coyle, and Dye whereby a decompression logic as taught by Dye is incorporated in the ASIC along with the compression function typically included in the ASIC. One would have been motivated to make such a modification so that decompressed data can be stored in the local memory disclosed by the APA or transferred to the print engine, as desired and as necessitated by data size and storage capacities of the memories.

10. Claims 9-12 are similar in scope to claims 3-6, and are rejected under the same rationale.

Response to Arguments

11. Applicant's arguments filed 8/5/04 have been fully considered but they are not persuasive. Applicant argues that Coyle does not disclose or suggest any unit corresponding to the claimed image data processing unit and central processing unit as now recited in amended independent claims 1 and 7. Specifically, applicant argues that Coyle does not teach or suggest a structure in which a central processing unit and a first memory are connected on a side of a graphics port with respect to an image data processing unit. As pointed out in the previously, Coyle discloses a computer 2 comprising a motherboard 6 carrying a RAM 10 and an AGP interface card 12 mounted thereon by an AGP connector 22; wherein the AGP interface card 12 comprises an AGP controller chip 24, chip 26, input and output FIFOs 28 & 30, user configurable hardware chips 34 & 36, and a custom interface board 38, and is coupled to a printer (c. 4 ll. 2-9, c. 4 ll. 55-c. 5 ll. 3, c. 11 ll. 66-c. 12 ll. 2, and Figs. 1 and 2). The components of the AGP interface card 12 are considered together as an image data processing unit. Therefore, Coyle teaches a CPU and first memory connected on a side of the graphics port with respect to the image data processing unit.

12. Applicant further argues that Coyle does not disclose or suggest a print engine provided on a side of a peripheral device interconnection portion with respect to the image data processing unit. Coyle is not relied upon to teach this feature. APA discloses a print engine coupled to the ASIC via a PCI bus (Fig. 1).

Conclusion

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ulka J. Chauhan whose telephone number is (703) 305-9651.

The examiner can normally be reached on Mon. through Fri., 9:30 a.m. to 4:00 p.m.

14. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Bella can be reached on (703) 308-6829. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

15. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Ulka J. Chauhan
Primary Examiner
Art Unit 2676

ujc
September 10, 2004